

AD-A115 013

ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/O 4/2  
193158 MLRS MISSILE NUMBER VZ8-005, V-15-004 ROUND NUMBER V236/--ETC(U)  
APR 88 D C KELLER  
ECON-DR-1228

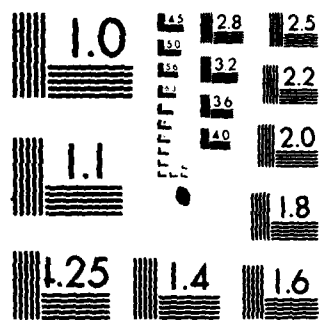
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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  Meteorological data gathered for the launching of the 19315B MLRS, Missile Number VZ8-005, V15-004, Round Number V236/AT2-11, V237/AT2-12 are presented in tabular form.		

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## INTRODUCTION

19315B MLRS, Missile Numbers VZ8-005 and V15-005, Round Numbers V-236/AT-11 and V-237/AT-12, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0813:30 and 0930:23 MST, 12 April 1982. The scheduled launch times were 0800 and 0900 MST.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from Pilot-Ballon observations at:

#### SITE AND ALTITUDE

WSD	2km
NICK	2km

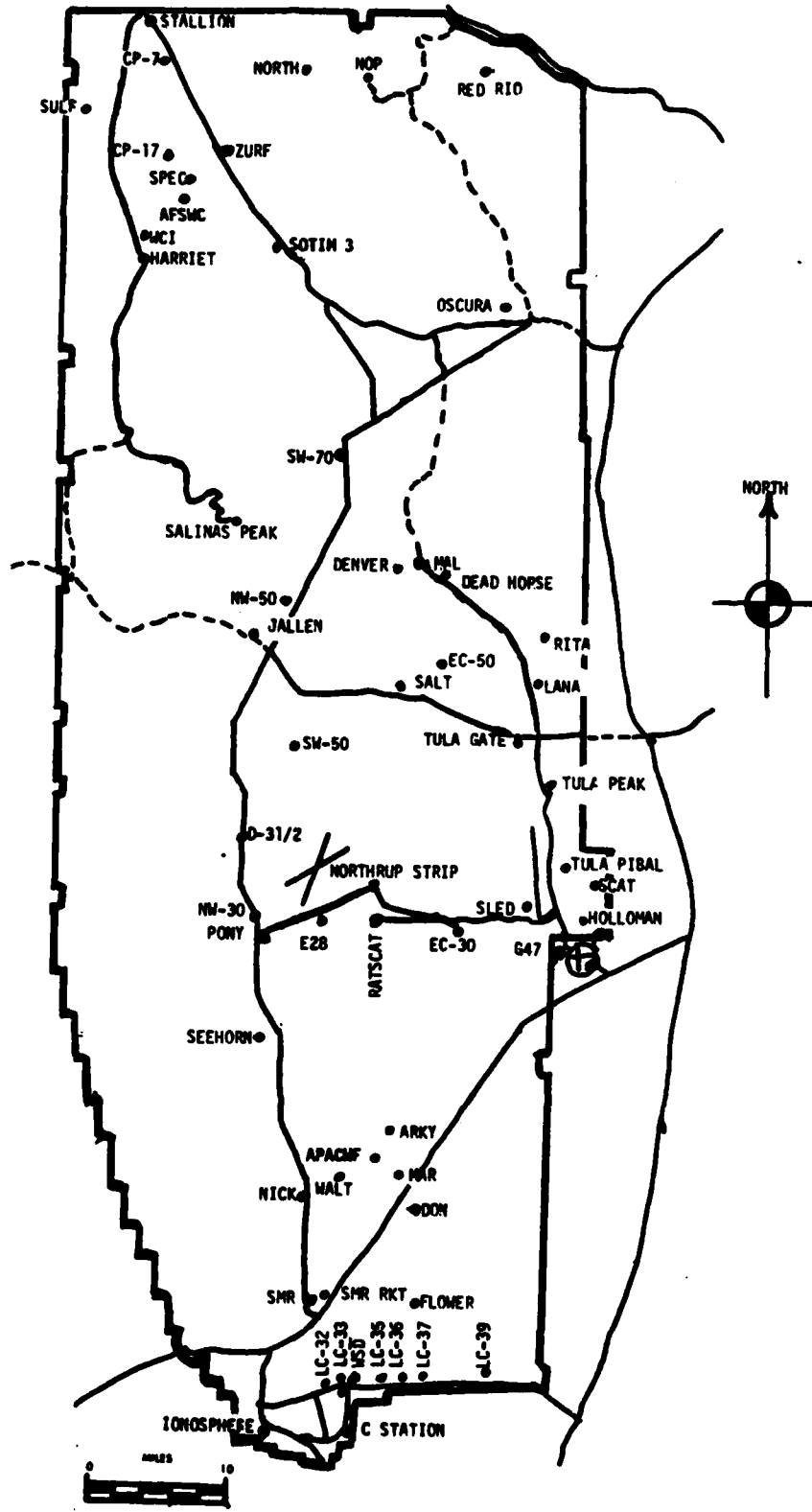
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

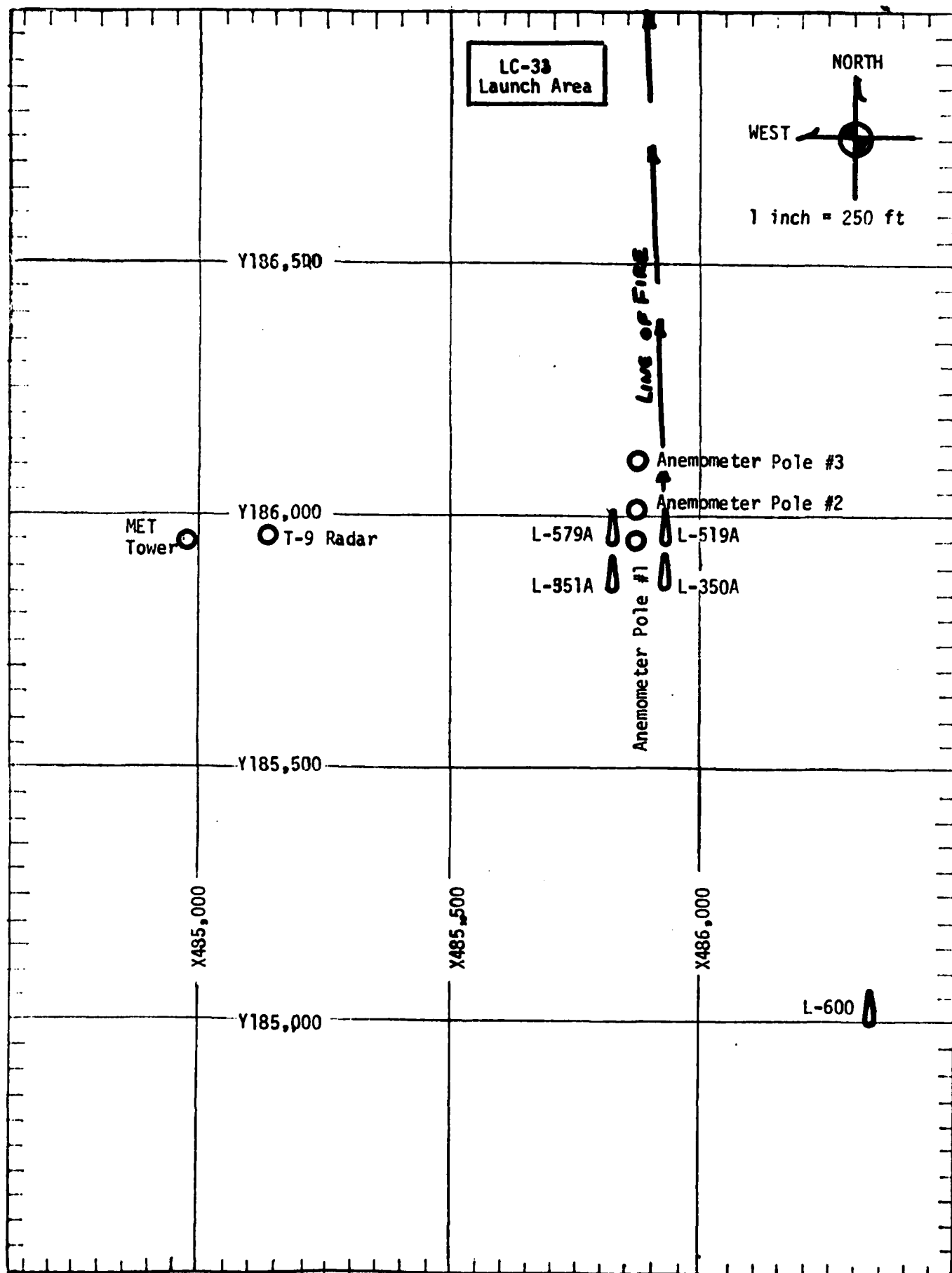
#### SITE AND TIME

WSD	0500 MST
LC-37	0600 MST
WSD	0700 MST
LC-37	0800 MST
WSD	0930 MST



# WSMR METEOROLOGICAL SITES





# PROJECT SURFACE OBSERVATION

TABLE 1										
STATION LC-33 E & A										
DATE 12 APR 82		X= 484,982.64		Y= 185,957.73		H= 3995.00				
TIME M S I		PRESSURE mbs	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m <sup>3</sup>	DIRECTION degs In	WIND SPEED kts	CHARACTER kts	VISIBILITY
0813		881.1	24.0	3.5	26	1028	310	09		40
0930		881.2	25.3	3.8	25	1025	300	14		40

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	AMT	TYPE	AMT	TYPE	
	6	CS	25,000				H ALQDS
	6	CS	25,000				H ALQDS

## PSYCHROMETRIC COMPUTATION

TIME: MST	0813	0930
DRY BULB TEMP.	24.0	25.3
WET BULB TEMP.	12.4	13.0
WET BULB DEPR.	11.6	12.3
DEW POINT	3.5	3.8
RELATIVE HUMID.	26	25

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	350	01	T-30	355	03	T-30	010	05
T-20	333	01	T-20	010	03	T-20	360	04
T-10	321	04	T-10	354	03	T-10	360	05
T0.0	336	03	T0.0	034	03	T0.0	004	07
T+10	339	04	T+10	022	03	T+10	360	07

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	317	06	T-30	315	10
T-20	309	06	T-20	328	09
T-10	317	09	T-10	318	09
T0.0	330	08	T0.0	303	10
T+10	291	09	T+10	313	12

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	315	10	T-30	317	10
T-20	320	09	T-20	309	10
T-10	308	10	T-10	302	10
T0.0	300	11	T0.0	304	11
T+10	300	12	T+10	313	11

TABLE 4 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	270	13	T-30	291	11	T-30	289	14
T-20	270	10	T-20	281	10	T-20	282	16
T-10	273	10	T-10	277	10	T-10	285	11
T0.0	252	15	T0.0	281	10	T0.0	267	13
T+10	262	15	T+10	282	15	T+10	304	11

TABLE 5 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	295	12	T-30	280	17
T-20	288	16	T-20	304	19
T-10	315	10	T-10	296	13
T0.0	290	12	T0.0	288	18
T+10	295	12	T+10	294	16

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	273	20	T-30	280	20
T-20	284	20	T-20	276	19
T-10	279	11	T-10	282	22
T0.0	285	21	T0.0	282	20
T+10	288	17	T+10	258	17

WIND VELOCITY - ALL OBSERVATIONS  
 DATE 12 April 1982

SITE: WSD

TIME: 0813 MST

NORTH COORDINATES:

X= 488,580.00

Y= 185,045.00

H= 3,989.00

SITE: NICK

TIME: 0813 MST

NORTH COORDINATES:

X= 470,734.56

Y= 255,775.64

H= 4,126.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	270	06
100	320	14
210	320	16
270	312	16
330	305	17
390	302	18
450	298	18
510	281	18
570	278	19
630	287	23
1100	285	19
1300	267	13
1500	265	16
1750	287	26
2000	295	33

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	285	04
100	280	09
210	278	10
270	276	10
330	273	11
390	273	11
450	276	12
510	280	13
570	282	14
630	281	13
1100	Lost in Sun	
1300		
1500		
1750		
2000		

All Data obtained from Single Theodolite Tracked Pilot-Ballon observations.

BLE 7

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 12 April 1982

TE: WSD

ME: 0930

TM COORDINATES:

488,580.00

185,045.00

3,989.00

SITE: NICK

TIME: 0930 MST

WSTM COORDINATES:

X= 470,734.56

Y= 255,775.64

H= 4,126.57

<u>LAYER MIDPOINT</u> <u>METERS AGL</u>	<u>DIRECTION</u> <u>DEGREES</u>	<u>SPEED</u> <u>KNOTS</u>	<u>LAYER MIDPOINT</u> <u>METERS AGL</u>	<u>DIRECTION</u> <u>DEGREES</u>	<u>SPEED</u> <u>KNOTS</u>
SURFACE	260	16	SURFACE	260	04
150	280	15	150	261	20
210	285	15	210	261	23
270	285	15	270	261	23
330	286	16	330	262	23
390	286	15	390	262	20
500	286	14	500	262	13
650	279	13	650	278	08
800	277	16	800	313	05
950	279	20	950	307	05
1150	285	23	1150	288	10
1350	290	29	1350	301	18
1550	289	32	1550	302	24
1750	290	31	1750	300	29
2000	294	36	2000	287	34

All Data obtained from Single Theodolite Tracked Pilot-Balloon observations

## AMING AND T-TIME COMPUTER MET MESSAGES

WSD 0500 MST	LC-37 0600 MST	WSD 0700 MST
METCM132406	METCM1324063	METCM1324064
121200122880	121300124879	121400122880
00480008 29320880	00480001 28910879	00480006 29380880
01519014 29450869	01519010 29240869	01499011 29510870
02521015 29280845	02517013 29060844	02501012 29350845
03559017 28980806	03562015 28840805	03519011 29050807
04568025 28660760	04531018 28580759	04504015 28620760
05550033 28310715	05517020 28210714	05523029 28250716
06520032 27980673	06516034 27840672	06516043 27990674
07489050 27740634	07485046 27630632	07485048 27800634
08471055 27400596	08475051 27380594	08465051 27540596
09467052 27040559	09464061 27030558	09467055 27160560
10464052 26660525	10461055 26640524	10467057 26770526
11467054 26270492	11467059 26250491	11468058 26390493
12467057 25750446	12473062 25760445	12477057 25850447

LC-37 0800 MST	WSD 0930 MST
METCM1324063	METCM1324064
121500124880	121650122881
00480006 2971880	00462018 29980881
01502019 2962870	01487018 29880871
02500022 2941845	02514015 29650846
03495025 2908806	03491020 29260808
04519036 2873760	04497019 28770762
05528042 2834716	05527025 28280718
06515047 2799674	06529040 27860675
07496045 2762634	07487049 27800635
08466047 2734596	08464054 27680597
09468060 2706560	09457052 27360562
10463057 2674525	10457050 26910527
11466059 2640493	11458063 26450495
12470060 2585447	12459066 25850449



STATION ALTITUDE 3989.00 FEET MSL  
12 APR. 62  
ASCENSION NO. 149

SIGNIFICANT LEVEL DATA  
1020020149  
WHITE SANDS  
SLE 9

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE	GEOMETRIC	TEMPERATURE	REL. HUM.
MILLIBARS	ALTITUDE	AIR DEWPOINT	PERCENT
	FEET	DEGREES	
		CENTIGRADE	
879.6	3989.0	19.3	29.0
867.8	4371.4	21.4	27.0
850.0	4958.2	19.3	29.0
819.6	5980.2	16.2	31.0
800.8	6627.4	15.8	32.0
700.0	10327.0	9.1	30.0
646.2	12480.2	4.1	27.0
628.8	13209.5	4.1	23.0
577.6	15455.8	-1.7	40.0
567.4	15921.2	-2.7	32.0
560.8	16226.2	-2.7	25.0
500.0	19178.5	-9.8	39.0
472.8	20590.4	-12.9	40.0
465.2	20996.6	-13.4	45.0
450.0	21825.4	-15.4	61.0
442.2	22259.2	-16.5	73.0
400.0	24713.4	-22.4	76.0
363.6	27000.5	-26.8	74.0
336.8	28801.2	-31.8	72.0
323.8	29712.5	-34.4	60.0
300.0	31452.4	-39.3	63.0

STATION ALTITUDE 3989.00 FEET MSL  
12 APR. 82 0500 HRS MST  
ASCENSION NO. 149

UPPER AIR DATA  
1020020149  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT UEG  
106.57033 LON UEG

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (DEGREES TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	879.6	19.3	.8	1044.9	667.2	270.0	8.0	1.000262
4000.0	879.3	19.4	.9	1044.2	667.2	270.4	8.0	1.000262
4500.0	865.9	20.9	1.5	1020.3	669.1	285.0	9.6	1.000257
5000.0	846.7	19.2	.8	1008.5	667.0	290.1	11.6	1.000253
5500.0	833.7	17.7	-.1	996.0	665.3	303.2	13.9	1.000249
6000.0	819.0	16.2	-.9	983.5	663.5	309.0	15.9	1.000245
6500.0	804.5	15.9	-.9	967.0	663.2	314.7	17.3	1.000242
7000.0	790.0	15.0	-1.3	952.5	662.2	317.9	19.6	1.000237
7500.0	775.8	14.0	-2.0	938.8	661.0	318.2	22.9	1.000233
8000.0	761.8	12.9	-2.7	925.3	659.8	317.0	26.1	1.000229
8500.0	746.1	11.9	-3.4	912.1	658.5	315.9	29.2	1.000225
9000.0	734.6	10.9	-4.1	899.0	657.3	313.0	30.9	1.000221
9500.0	721.4	9.8	-4.9	886.1	656.1	310.5	30.7	1.000218
10000.0	706.4	8.8	-5.6	873.4	654.8	306.2	30.3	1.000214
10500.0	695.5	7.8	-6.6	860.7	653.6	300.3	30.1	1.000210
11000.0	684.7	6.8	-8.2	847.9	652.5	294.2	31.7	1.000205
11500.0	670.2	5.9	-9.8	835.2	651.3	288.6	35.3	1.000200
12000.0	657.8	5.0	-11.5	822.7	650.2	283.0	39.8	1.000196
12500.0	645.7	4.1	-13.2	810.3	649.1	278.6	45.1	1.000191
13000.0	633.8	4.1	-14.5	795.4	648.1	274.4	49.0	1.000187
13500.0	621.9	3.4	-14.7	782.6	648.2	269.9	52.4	1.000184
14000.0	610.3	2.1	-14.1	771.5	646.7	267.3	53.9	1.000182
14500.0	590.9	.8	-13.7	760.6	645.2	265.3	54.8	1.000180
15000.0	587.6	-.5	-13.5	749.9	643.7	265.4	55.0	1.000178
15500.0	576.6	-1.8	-13.8	739.2	642.2	266.0	55.0	1.000175
16000.0	565.7	-2.7	-17.8	727.9	641.0	264.0	53.9	1.000170
16500.0	554.9	-3.4	-19.9	715.9	640.2	261.9	53.1	1.000166
17000.0	544.2	-4.6	-20.0	705.2	638.7	259.0	52.7	1.000164
17500.0	533.7	-5.8	-20.1	694.7	637.3	259.3	52.6	1.000161
18000.0	523.4	-7.0	-20.3	684.4	635.9	261.3	52.8	1.000159
18500.0	513.4	-8.2	-20.6	674.3	634.4	262.7	53.0	1.000157
19000.0	503.5	-9.4	-21.0	664.4	633.0	263.6	53.3	1.000154
19500.0	493.7	-10.5	-21.3	654.2	631.6	263.6	54.4	1.000152
20000.0	484.0	-11.6	-21.6	644.1	630.3	263.3	55.7	1.000149
20500.0	474.5	-12.7	-22.0	634.1	629.0	263.1	56.1	1.000147
21000.0	465.1	-13.4	-22.8	623.3	628.1	262.9	56.4	1.000144
21500.0	455.9	-14.6	-21.7	613.8	626.7	262.5	55.9	1.000143
22000.0	446.8	-15.8	-20.7	604.4	625.2	262.1	55.4	1.000141
22500.0	437.9	-17.1	-20.7	595.1	623.7	262.1	55.2	1.000139
23000.0	429.0	-18.3	-21.8	585.8	622.2	262.0	55.3	1.000137

STATION ALTITUDE 3989.00 FEET MSL  
12 APR. 82 0500 HRS MST  
ASCENSION NO. 149

UPPER AIR DATA  
1020020149  
WHITE SANDS  
TABLE 10 CONT'D

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (DEGREES (M))	SPEED KNOTS	INDEX OF REFRACTION
23500.0	420.3	-19.5	-22.8	74.5	576.7	620.7	262.0	56.0	1.000134
24000.0	411.8	-20.7	-23.9	75.1	567.8	619.3	261.9	56.7	1.000132
24500.0	403.5	-21.9	-25.0	75.7	559.0	617.8	261.7	57.7	1.000129
25000.0	395.2	-23.0	-26.0	75.7	549.9	616.4	261.4	58.5	1.000127
25500.0	387.1	-23.9	-27.0	75.3	540.7	615.2	261.1	59.4	1.000124
26000.0	379.1	-24.9	-28.0	74.9	531.6	614.0	260.7	60.6	1.000122
26500.0	371.3	-25.8	-29.0	74.4	522.7	612.8	260.4	62.0	1.000120
27000.0	363.6	-26.8	-30.0	74.0	513.9	611.6	260.2	64.1	1.000118
27500.0	356.0	-28.2	-31.4	73.4	506.0	609.9	260.1	66.2	1.000115
28000.0	348.5	-29.6	-32.9	72.9	498.2	608.1	260.0	67.5	1.000113
28500.0	341.1	-31.0	-34.3	72.3	490.5	606.4	259.9	68.6	1.000111
29000.0	333.9	-32.4	-35.9	70.7	483.0	604.6	259.5	65.6	1.000109
29500.0	326.8	-33.8	-37.7	67.4	475.5	602.8	259.0	62.6	1.000107
30000.0	319.7	-35.2	-39.3	65.5	468.0	601.0	258.5	58.3	1.000106
30500.0	312.8	-36.6	-40.8	64.6	460.6	599.2			1.000104
31000.0	306.0	-38.0	-42.3	63.8	453.3	597.4			1.000102

STATION ALTITUDE 3989.00 FEET MSL  
12 APR. 02 0500 HRS MST  
ASCENSION NO. 149

MANDATORY LEVELS  
1020020149  
WHITE SANDS  
TABLE 11

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR ° DEGREES	DEWPOINT CENTIGRADE	PERCENT	WIND DIRECTION DEGREES (TN)	SPEED KNOTS	
850.0	4955.	19.3	.8	29.	295.3	11.4	
800.0	6650.	15.7	-.9	32.	316.3	17.8	
750.0	8435.	12.0	-3.3	34.	316.1	28.8	
700.0	10317.	8.1	-6.0	36.	302.4	30.1	
650.0	12310.	4.4	-12.6	28.	280.4	43.1	
600.0	14436.	.9	-13.8	32.	265.5	54.7	
550.0	16710.	-3.9	-19.9	27.	260.9	52.9	
500.0	19151.	-9.8	-21.1	39.	264.1	53.5	
450.0	21792.	-15.4	-21.2	61.	262.2	53.5	
400.0	24672.	-22.4	-25.4	76.	261.6	58.0	
350.0	27851.	-29.3	-32.6	73.	260.0	67.2	
300.0	31389.	-39.3	-43.6	63.			

STATION ALTITUDE 4051.37 FEET MSL  
12 APR. 62  
ASCENSION NO. 22 0600 HRS MST

SIGNIFICANT LEVEL DATA  
1020180042  
LC-37  
TABLE 12

GEODETIC COORDINATES  
32.40175 LAT DEG  
106.31232 LONG DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
879.2	4051.4	15.0	37.0
873.0	4249.6	19.4	38.0
850.0	4099.9	16.6	37.0
744.2	8681.9	11.2	42.0
700.0	10348.6	6.7	47.0
679.2	11160.0	4.6	50.0
652.0	12253.4	3.8	43.0
643.2	12615.7	2.6	48.0
617.0	13721.2	2.5	24.0
599.6	14478.9	.7	41.0
574.0	15625.4	-1.9	25.0
549.2	16775.5	-4.0	24.0
500.0	19183.7	-9.9	38.0
477.4	20352.1	-12.3	36.0
469.8	20755.2	-12.9	34.0
454.8	21566.6	-14.7	60.0
447.2	21985.9	-15.6	48.0
432.6	22807.6	-17.2	61.0
410.8	24075.4	-20.6	64.0
400.0	24722.2	-22.2	62.0
356.2	27491.3	-28.9	66.0
		-33.2	

STATION ALTITUDE 4051.37 FEET MSL  
12 APR. 82 0600 HRS MST  
ASL/MSL NO. 22

UPPER AIR DATA  
1020160024  
LC-37

GEODETTIC COORDINATES  
32.40175 LAT DEG  
106.51232 LONG DEG

TABLE 13

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
4051.4	879.2	15.0	.4	37.0	1060.0	662.2	270.0	1.000265
4500.0	865.3	18.5	3.8	37.7	1030.0	666.4	305.1	1.000265
5000.0	850.0	16.6	1.9	37.0	1018.8	664.2	310.3	1.000259
5500.0	834.8	15.9	1.5	37.7	1003.1	663.3	312.2	1.000254
6000.0	819.9	15.1	1.1	38.4	987.7	662.5	313.1	1.000250
6500.0	803.2	14.4	.7	39.0	972.0	661.6	312.1	1.000246
7000.0	790.8	13.7	.2	39.7	957.0	660.8	310.0	1.000242
7500.0	776.6	12.9	-.2	40.4	942.9	659.9	306.5	1.000238
8000.0	762.7	12.2	-.6	41.1	928.5	659.0	300.2	1.000234
8500.0	749.1	11.5	-1.1	41.8	914.3	658.2	295.5	1.000230
9000.0	735.6	10.3	-1.7	43.0	901.4	656.9	292.2	1.000226
9500.0	722.2	9.0	-2.5	44.5	889.3	655.3	291.1	1.000222
10000.0	709.0	7.6	-3.2	46.0	877.4	653.6	291.9	1.000219
10500.0	696.1	6.3	-4.0	47.6	865.6	652.1	291.5	1.000215
11000.0	683.3	5.0	-4.7	49.4	853.6	650.5	290.7	1.000211
11500.0	670.6	4.4	-5.7	47.8	840.0	649.7	287.4	1.000207
12000.0	658.2	4.0	-7.0	44.6	825.7	649.2	283.9	1.000202
12500.0	646.0	3.0	-7.4	46.4	813.3	648.0	278.7	1.000199
13000.0	634.0	2.6	-9.8	39.7	799.6	647.4	273.4	1.000193
13500.0	622.2	2.5	-13.8	28.8	785.2	647.2	268.5	1.000185
14000.0	610.5	1.8	-13.8	30.3	772.4	646.4	264.2	1.000183
14500.0	599.1	.7	-11.2	40.7	761.0	645.2	263.3	1.000177
15000.0	587.8	-.5	-14.5	33.7	750.1	643.7	263.1	1.000177
15500.0	576.7	-1.6	-18.2	26.7	739.2	642.3	264.2	1.000172
16000.0	565.0	-2.6	-20.0	24.7	727.9	641.1	263.4	1.000169
16500.0	553.5	-3.5	-21.0	24.2	716.5	640.0	261.7	1.000166
17000.0	544.4	-4.6	-21.4	25.3	705.6	638.7	260.5	1.000163
17500.0	535.9	-5.8	-21.2	28.2	695.1	637.3	260.0	1.000161
18000.0	523.6	-7.0	-21.2	31.1	684.8	635.8	260.7	1.000159
18500.0	513.5	-8.2	-21.2	34.0	674.7	634.4	261.1	1.000156
19000.0	503.6	-9.5	-21.4	36.9	664.5	632.9	261.2	1.000154
19500.0	493.8	-10.5	-22.2	37.5	654.7	631.6	261.9	1.000151
20000.0	484.1	-11.6	-23.4	36.6	644.3	630.3	262.9	1.000149
20500.0	474.6	-12.5	-24.7	35.3	633.9	629.1	264.0	1.000146
21000.0	465.2	-13.4	-23.6	41.8	623.6	628.1	265.2	1.000144
21500.0	456.0	-14.6	-21.0	57.9	613.7	626.8	265.0	1.000143
22000.0	446.9	-15.6	-24.5	46.3	604.2	625.4	265.0	1.000139
22500.0	438.0	-16.6	-23.4	55.4	594.3	624.2	265.4	1.000138
23000.0	429.2	-17.7	-23.3	61.5	584.9	622.9	264.9	1.000136
23500.0	420.6	-19.1	-24.4	62.6	576.1	621.2	264.0	1.000133

STATION ALTITUDE 4051.37 FEET MSL  
12 APR. 62 0600 HRS MST  
ASCENSION NO. 22

UPPER AIR DATA  
10201800Z  
LC-37  
TABLE 13 CONT'D

GEODETIC COORDINATES  
32.44175 LAT DEG  
106.31232 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REF. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE						
24000.0	412.1	-20.4	-25.4	63.8	567.5	619.6	263.1	59.7	1.000131
24500.0	403.7	-21.7	-26.8	62.7	550.8	618.0	261.6	60.3	1.000129
25000.0	395.4	-22.9	-28.0	62.4	550.0	616.5	260.4	60.9	1.000126
25500.0	387.2	-24.1	-29.1	63.1	541.3	615.0	259.3	62.3	1.000124
26000.0	379.2	-25.3	-30.1	63.8	532.6	613.5			1.000122
26500.0	371.3	-26.5	-31.1	64.6	524.2	612.0			1.000120
27000.0	363.6	-27.7	-32.2	65.3	515.9	610.5			1.000117

STATION ALTITUDE 4051.37 FEET MSL  
12 APR. 82 0600 HRS MST  
ASCLSION NO. 22

MANDATORY LEVELS  
102010002  
LC-37

GEODETIC COORDINATES  
32.40175 LAT DEG  
106.31232 LONG DEG

TABLE 14

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4976.	16.6	1.9	37.	310.3	6.9
800.0	6682.	14.1	.5	39.	311.5	16.0
750.0	8461.	11.5	-1.0	42.	295.7	18.1
700.0	10338.	6.7	-3.8	47.	291.8	23.7
650.0	12322.	3.5	-7.5	44.	280.7	40.6
600.0	14444.	.7	-11.1	41.	263.3	56.3
550.0	16716.	-3.9	-21.5	24.	261.2	58.9
500.0	19157.	-9.9	-21.5	38.	261.3	56.4
450.0	21797.	-15.3	-23.0	51.	265.7	60.0
400.0	24681.	-22.2	-27.5	62.	261.2	60.5



STATION ALTITUDE 3989.00 FEET MSL  
12 APR. 62 0700 HRS MST  
ASCENSION NO. 150

SIGNIFICANT LEVEL DATA  
1020020150  
WHITE SANDS  
TABLE 15

GEODETTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
880.1	3989.0	19.7	2.1	31.0
870.1	4313.0	21.7	2.4	28.0
850.0	4975.7	19.8	.3	27.0
827.4	5735.4	18.4	-.4	28.0
736.0	8980.4	10.1	-3.9	37.0
700.0	10344.3	7.5	-5.5	39.0
683.0	11008.5	6.4	-6.2	40.0
665.8	11695.7	6.1	-9.7	31.0
648.6	12398.9	4.9	-9.2	35.0
623.2	13468.4	4.2	-16.1	21.0
606.2	14206.0	3.0	-18.3	19.0
500.0	19223.5	-8.7	-23.1	30.0
439.1	22488.8	-16.0	-27.3	37.0
434.8	22732.7	-16.4	-22.7	58.0
420.4	23564.2	-17.9	-23.9	59.0
400.0	24781.6	-20.8	-27.6	54.0
371.2	26585.3	-24.9	-30.9	57.0
300.0	31555.6	-37.4	-44.5	47.0

STATION ALTITUDE 3989.00 FEET MSL  
12 APR. 62 0700 HRS MST  
ASCENSION NO. 150

UPPER AIR DATA  
1020020150  
WHITE SANDS  
TABLE 16

GEODETTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	880.1	19.7	2.1	1043.7	667.7	270.0	6.0	1.000264
4000.0	879.8	19.8	2.1	1043.1	667.8	270.2	6.1	1.000264
4500.0	864.4	21.2	1.8	1020.0	669.4	277.1	7.5	1.000256
5000.0	849.3	19.8	.3	1007.3	667.7	281.6	9.1	1.000252
5500.0	834.3	18.8	-.2	992.7	666.6	285.0	10.7	1.000248
6000.0	819.5	17.7	-.6	978.9	665.3	287.8	11.6	1.000244
6500.0	804.9	16.4	-1.1	965.7	663.8	291.5	11.1	1.000241
7000.0	790.5	15.2	-1.6	952.7	662.4	293.9	11.2	1.000237
7500.0	776.4	13.9	-2.1	939.9	660.9	294.7	12.0	1.000233
8000.0	762.5	12.6	-2.7	927.2	659.4	294.4	14.4	1.000230
8500.0	748.9	11.3	-3.3	914.8	657.9	293.9	17.7	1.000226
9000.0	735.5	10.1	-3.9	902.5	656.4	293.6	22.3	1.000223
9500.0	722.1	9.1	-4.5	889.1	655.3	293.2	26.9	1.000219
10000.0	708.9	8.2	-5.1	876.0	654.1	291.9	31.1	1.000215
10500.0	695.0	7.2	-5.7	862.8	653.1	290.7	35.3	1.000212
11000.0	683.2	6.4	-6.2	849.5	652.1	289.5	39.8	1.000208
11500.0	670.7	6.2	-8.6	834.9	651.7	286.0	42.9	1.000201
12000.0	658.3	5.6	-9.5	821.4	651.0	282.1	45.4	1.000197
12500.0	646.2	4.8	-9.8	808.4	650.1	277.0	45.8	1.000194
13000.0	634.2	4.5	-12.8	794.6	649.6	272.4	46.7	1.000188
13500.0	622.5	4.1	-16.2	781.2	649.1	268.4	48.0	1.000182
14000.0	610.9	3.3	-17.7	769.0	648.1	265.1	49.2	1.000179
14500.0	599.4	2.3	-18.5	757.4	646.9	262.4	50.1	1.000176
15000.0	588.0	1.1	-18.8	746.1	645.5	261.0	51.1	1.000173
15500.0	576.8	-.0	-19.2	735.1	644.1	261.0	52.2	1.000171
16000.0	565.9	-1.2	-19.7	724.2	642.7	262.2	53.9	1.000168
16500.0	555.1	-2.3	-20.1	713.5	641.4	262.9	56.5	1.000165
17000.0	544.5	-3.5	-20.6	703.0	640.0	263.3	58.2	1.000163
17500.0	534.2	-4.7	-21.1	692.6	638.6	263.1	57.3	1.000160
18000.0	524.0	-5.8	-21.7	682.4	637.2	262.9	56.5	1.000158
18500.0	514.1	-7.0	-22.2	672.4	635.8	263.2	55.3	1.000155
19000.0	504.3	-8.2	-22.8	662.5	634.4	263.6	54.8	1.000153
19500.0	494.5	-9.3	-23.4	652.5	633.0	264.2	56.2	1.000150
20000.0	484.8	-10.4	-24.0	642.4	631.7	264.9	57.5	1.000148
20500.0	475.2	-11.6	-24.6	632.5	629.3	265.6	59.0	1.000145
21000.0	465.9	-12.7	-25.3	622.7	629.0	266.7	58.8	1.000143
21500.0	456.7	-13.8	-25.9	613.1	627.6	267.5	58.8	1.000141
22000.0	447.7	-14.9	-26.6	603.6	626.2	267.9	58.8	1.000138
22500.0	438.9	-16.0	-27.0	594.3	624.9	268.0	57.5	1.000136
23000.0	430.1	-16.9	-23.1	584.2	623.9	267.4	58.7	1.000135

STATION ALTITUDE 3989.00 FEET MSL  
12 APR. 82 0700 HRS MST  
ASCENSION NO. 150

UPPER AIR DATA  
1020020150  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

TABLE 16 CONT'D

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND M/S	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES (T)	SPEED KNOTS	
23500.0	421.5	-17.8	-23.8	58.9	574.5	622.8	266.5	60.7	1.000133
24000.0	413.0	-18.9	-25.2	57.2	565.5	621.4	265.4	62.9	1.000131
24500.0	404.6	-20.1	-26.8	55.2	556.7	619.9	264.2	65.3	1.000128
25000.0	396.4	-21.3	-28.0	54.4	548.0	618.4	263.4	66.0	1.000126
25500.0	388.3	-22.4	-28.9	55.2	539.2	617.0	262.7	65.0	1.000123
26000.0	380.3	-23.6	-29.8	56.0	530.6	615.6	262.1	63.9	1.000121
26500.0	372.5	-24.7	-30.8	56.9	522.1	614.2	261.7	62.6	1.000119
27000.0	364.7	-25.9	-32.0	56.2	513.7	612.7	261.3	62.2	1.000117
27500.0	356.4	-27.2	-33.4	55.2	505.4	611.1	261.1	65.2	1.000115
28000.0	349.4	-28.5	-34.8	54.2	497.2	609.5	261.0	68.0	1.000113
28500.0	342.0	-29.7	-36.2	53.1	489.2	607.9	260.7	69.8	1.000111
29000.0	334.7	-31.0	-37.5	52.1	481.3	606.3	260.4	71.2	1.000109
29500.0	327.6	-32.2	-38.9	51.1	473.6	604.8	259.8	69.6	1.000107
30000.0	320.7	-33.5	-40.3	50.1	466.0	603.2	259.1	67.9	1.000105
30500.0	313.9	-34.7	-41.6	49.1	458.6	601.6			1.000103
31000.0	307.2	-36.0	-43.0	48.1	451.2	600.0			1.000101
31500.0	300.7	-37.3	-44.3	47.1	444.0	598.4			1.000100

STATION ALTITUDE 3989.00 FEET MSL  
12 APR. 82 0700 HRS MST  
ASCENSION NO. 150

MANDATORY LEVELS  
1020020150  
WHITE SANDS  
TABLE 17

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE	GEOPOTENTIAL	AIR	TEMPERATURE	REL. HUM.	WIND DATA
MILLIBARS	FEET	DEGREES	DEWPOINT	PERCENT	DIRECTION
			CENTIGRADE		DEGREES(TN)
850.0	4972.	19.8	.3	27.	281.0
800.0	6673.	16.0	-1.3	31.	292.8
750.0	8457.	11.4	-3.3	36.	293.9
700.0	10334.	7.5	-5.5	39.	291.1
650.0	12328.	5.0	-9.3	35.	278.7
600.0	14462.	2.4	-18.5	20.	262.5
550.0	16746.	-2.9	-20.3	25.	263.2
500.0	19196.	-8.7	-23.1	30.	263.9
450.0	21846.	-14.6	-26.4	36.	267.8
400.0	24740.	-20.8	-27.6	54.	263.7
350.0	27932.	-28.4	-34.7	54.	261.0
300.0	31492.	-37.4	-44.5	47.	
					SPEED
					KNOTS
					9.0
					10.9
					17.4
					33.9
					45.6
					50.0
					57.9
					55.4
					58.5
					60.5
					67.8

STATION ALTITUDE 4051.37 FEET MSL  
 12 APR. 62 0800 HRS MSL  
 ASCENSION NO. 23

SIGNIFICANT LEVEL DATA  
 1020180023  
 LC-37  
 TABLE 18

GEODETIC COORDINATES  
 32.44175 LAT DEG  
 106.31232 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
879.7	4051.4	23.1	23.0
850.0	5028.6	20.4	32.0
809.0	6420.9	16.9	34.0
778.8	7482.4	15.1	35.0
700.0	10412.8	7.9	49.0
663.6	11854.9	5.7	31.0
609.2	14131.5	0	51.0
591.8	14894.8	.2	18.0
557.6	16453.8	-2.9	17.0
500.0	19264.9	-8.3	21.0
460.6	21340.9	-13.2	38.0
445.2	22190.2	-15.1	63.0
430.2	23041.0	-16.4	53.0
400.0	24827.0	-21.0	54.0
346.0	28298.1	-28.9	38.0

STATION ALTITUDE 4051.37 FEET MSL  
12 APR. 62 0800 HRS MST  
ASCENSION NO. 23

UPPER AIR DATA  
1020180023  
LC-37  
TABLE 19

GEODETTIC COORDINATES  
32.40175 LAT DEG  
106.51232 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (DEGREES (T))	SPEED KNOTS	INDEX OF REFRACTION
4051.4	879.7	23.1	.9	23.0	1031.6	671.5	270.0	6.0
4500.0	865.9	21.9	2.1	27.1	1019.4	670.2	273.7	10.3
5000.0	850.9	20.5	3.1	31.7	1006.0	668.7	275.4	15.1
5500.0	835.9	19.2	2.4	32.7	992.7	667.2	276.4	19.9
6000.0	821.2	18.0	1.6	33.4	979.6	665.7	277.2	24.1
6500.0	806.7	16.8	.9	34.1	966.4	664.3	279.6	25.4
7000.0	792.4	15.9	.3	34.5	952.1	663.4	283.5	27.3
7500.0	778.3	15.1	-.2	35.1	938.0	662.3	288.3	30.0
8000.0	764.3	13.8	-.4	37.5	925.0	660.9	291.4	33.0
8500.0	750.5	12.6	-.7	39.9	912.2	659.5	293.7	36.3
9000.0	736.9	11.4	-1.0	42.3	899.7	658.1	295.0	39.9
9500.0	723.7	10.1	-1.3	44.6	887.3	656.7	295.9	43.7
10000.0	710.6	8.9	-1.8	47.0	875.1	655.2	295.4	45.7
10500.0	697.7	7.8	-2.6	47.9	862.9	653.9	293.7	46.7
11000.0	684.9	7.0	-5.1	41.7	849.7	652.8	292.2	47.7
11500.0	672.4	6.2	-7.9	35.4	836.8	651.8	289.1	46.2
12000.0	660.0	5.3	-9.9	32.3	824.2	650.7	285.7	44.8
12500.0	647.7	4.1	-9.4	36.7	812.5	649.2	282.1	43.7
13000.0	635.7	2.8	-9.1	41.1	800.9	647.8	277.7	43.6
13500.0	623.8	1.6	-8.9	49.5	789.5	646.3	273.2	43.7
14000.0	612.2	.3	-8.9	49.8	778.4	644.9	269.1	44.4
14500.0	600.7	.1	-13.5	35.1	764.8	644.4	265.7	46.5
15000.0	589.4	-.0	-21.5	17.9	751.2	644.1	262.0	48.6
15500.0	578.3	-1.0	-22.5	17.6	739.6	642.9	261.7	51.7
16000.0	567.3	-2.0	-23.5	17.3	728.5	641.7	261.7	55.1
16500.0	556.6	-3.0	-24.5	17.1	717.3	640.5	263.0	58.2
17000.0	545.9	-3.9	-24.8	17.8	706.1	639.4	263.4	59.6
17500.0	535.4	-4.9	-25.2	18.5	695.0	638.2	262.2	58.4
18000.0	525.1	-5.9	-25.6	19.2	684.1	637.1	260.3	57.2
18500.0	515.1	-6.8	-26.0	19.9	673.4	635.9	259.7	55.9
19000.0	505.2	-7.8	-26.4	20.6	662.8	634.8	260.4	55.5
19500.0	495.4	-8.9	-26.2	22.9	652.6	633.5	261.8	56.5
20000.0	485.7	-10.0	-25.4	27.0	642.7	632.1	262.6	58.0
20500.0	476.2	-11.2	-24.9	31.1	632.9	630.7	263.2	59.4
21000.0	466.8	-12.4	-24.6	35.2	623.7	629.3	263.8	60.1
21500.0	457.7	-13.6	-23.5	42.7	613.7	627.9	264.3	60.9
22000.0	448.6	-14.7	-21.2	57.4	604.0	626.6	264.6	63.0
22500.0	439.7	-15.6	-21.7	59.4	594.1	625.5	264.6	65.2
23000.0	430.9	-16.3	-23.6	53.5	584.1	624.0	264.6	65.7
23500.0	422.2	-17.6	-24.8	53.3	575.1	623.0	264.0	64.9

STATION ALTITUDE 4051.37 FEET MSL  
12 APR. 82 0800 HRS MST  
ASCENSION NO. 23

UPPER AIR DATA  
1020130023  
UC-37  
TABLE 19 CONT'D

GEODETTIC COORDINATES  
32.40175 LAT DEG  
106.31232 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (IN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	413.7	-18.9	53.5	566.4	621.4	203.3	63.9	1.000130
24500.0	405.4	-20.2	53.8	557.8	619.8	201.6	62.3	1.000128
25000.0	397.1	-21.4	53.2	549.2	618.3	201.0	62.0	1.000126
25500.0	388.9	-22.5	50.9	540.3	616.9	201.2	63.4	1.000123
26000.0	380.9	-23.7	48.6	531.6	615.5	201.3	64.8	1.000121
26500.0	373.0	-24.8	46.3	523.0	614.0	200.9	66.6	1.000119
27000.0	365.3	-25.9	44.0	514.6	612.6	257.6	70.4	1.000117
27500.0	357.7	-27.1	41.7	506.3	611.2			1.000115
28000.0	350.3	-28.2	39.4	498.2	609.8			1.000112

STATION ALTITUDE 4051.37 FEET MSL  
12 APR. 82 0800 HRS MST  
ASCENSION NO. 23

MANDATORY LEVELS  
1020180023  
LC-37  
TABLE 20

GEODETTIC COORDINATES  
32.40175 LAT DEG  
106.51232 LON DEG

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL. HUM.	WIND DATA	
		AIR	DEWPOINT		DIRECTION	SPEED
MILLIBARS	FEET	DEGREES	CENTIGRADE	PERCENT	DEGREES (TN)	KNOTS
850.0	5025.	20.4	3.2	32.	275.4	15.4
800.0	6728.	16.4	.6	34.	280.8	20.1
750.0	8518.	12.6	-.7	40.	293.8	30.4
700.0	10402.	7.9	-2.1	49.	294.0	40.5
650.0	12397.	4.3	-9.5	30.	282.9	43.8
600.0	14515.	.1	-14.0	34.	265.5	40.6
550.0	16789.	-3.6	-24.7	10.	263.9	60.1
500.0	19238.	-8.3	-26.7	21.	261.1	50.0
450.0	21889.	-14.5	-21.5	55.	264.5	62.6
400.0	24785.	-21.0	-27.8	54.	261.0	61.4
350.0	27975.	-28.3	-37.8	39.		



STATION ALTITUDE 3989.00 FEET MSL  
12 APR. 02 0930 LRS NOT  
ABUNDANCE NO. 151

SIGNIFICANT LEVEL DATA  
1020020151  
WHITE SANDS  
TABLE 21

GEODETTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE	GEOMETRIC ALTITUDE	AIR TEMPERATURE	DEWPOINT	REL. HUM.
MILLIBARS	MSL FEET	DEGREES	CENTIGRADE	PERCENT
841.0	3989.0	25.7	5.0	25.0
850.0	5016.5	22.6	1.0	24.0
700.0	10410.7	7.0	-3.2	48.0
661.4	11933.9	3.2	-3.4	62.0
653.2	12266.2	2.5	-4.5	60.0
636.6	12952.9	4.2	-6.2	40.0
633.2	13096.6	6.1	-13.4	25.0
611.2	14045.3	4.2	-12.2	29.0
563.0	16225.0	.0	-16.6	25.0
500.0	19702.7	-4.3	-17.6	47.0
485.2	20067.0	-10.5	-16.7	60.0
470.2	20860.2	-12.0	-21.2	46.0
433.6	22880.0	-17.3	-27.1	42.0
426.6	23269.1	-18.3	-26.3	49.0
412.2	24120.6	-20.7	-26.6	63.0
400.0	24450.7	-21.7	-25.5	71.0
384.8	25787.9	-22.9	-30.6	49.0
371.0	26665.6	-24.9	-34.0	42.0
345.0	28390.9	-28.9	-37.9	41.0
300.0	31626.5	-37.3	-46.6	37.0

STATION ALTITUDE 3989.00 FEET MSL  
12 APR. 62 0930 HRS MST  
ASCENSION NO. 151

UPPER AIR DATA  
1020020151  
WHITE SANDS  
TABLE 22

GEODETRIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY CM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	881.0	25.7	3.0	1023.6	674.6	200.0	18.1	1.000260
4000.0	880.7	25.7	3.0	1023.3	674.5	200.1	18.0	1.000260
4500.0	865.4	24.2	2.0	1010.9	672.8	200.0	16.9	1.000256
5000.0	850.5	22.6	1.1	998.7	671.0	272.6	16.0	1.000251
5500.0	835.3	21.2	1.0	985.7	669.4	279.9	15.4	1.000248
6000.0	820.4	19.8	.9	972.8	667.7	280.7	16.0	1.000246
6500.0	805.8	18.3	.7	960.2	666.1	277.5	17.4	1.000243
7000.0	791.4	16.9	.4	947.8	664.4	276.7	18.2	1.000240
7500.0	777.3	15.4	.1	935.0	662.8	276.6	18.9	1.000236
8000.0	763.5	14.0	-.4	923.6	661.1	280.7	19.6	1.000233
8500.0	749.8	12.5	-.9	911.7	659.4	284.8	20.5	1.000230
9000.0	736.5	11.1	-1.4	900.1	657.7	290.0	23.1	1.000226
9500.0	723.3	9.6	-2.0	888.6	656.0	294.1	26.0	1.000223
10000.0	710.4	8.2	-2.7	877.3	654.3	296.1	28.5	1.000220
10500.0	697.7	6.8	-3.2	866.0	652.7	297.6	31.3	1.000216
11000.0	684.8	5.5	-3.2	853.8	651.2	297.6	35.8	1.000214
11500.0	672.2	4.3	-3.2	841.7	649.8	296.7	40.8	1.000211
12000.0	659.8	3.1	-3.6	829.9	648.3	294.6	46.1	1.000208
12500.0	647.5	1.9	-5.5	814.7	646.3	288.9	49.2	1.000202
13000.0	635.5	4.8	-9.5	795.0	650.1	272.6	50.6	1.000192
13500.0	623.7	5.3	-12.8	779.3	650.5	262.0	52.8	1.000185
14000.0	612.2	4.3	-12.3	767.6	649.4	259.1	49.5	1.000183
14500.0	600.8	3.3	-13.5	756.0	648.2	259.0	48.8	1.000179
15000.0	589.6	2.4	-15.0	744.6	647.0	259.2	50.8	1.000175
15500.0	578.6	1.4	-16.4	733.4	645.9	259.2	52.3	1.000172
16000.0	567.8	.4	-17.9	722.3	644.7	258.7	53.2	1.000168
16500.0	557.1	-.7	-18.2	711.7	643.3	258.3	54.2	1.000166
17000.0	546.4	-2.1	-17.7	701.5	641.7	258.3	55.4	1.000164
17500.0	535.0	-3.4	-17.4	691.5	640.2	258.3	56.9	1.000162
18000.0	523.8	-4.8	-17.3	681.7	638.6	258.6	58.5	1.000160
18500.0	512.7	-6.1	-17.3	672.1	637.0	258.8	60.0	1.000158
19000.0	501.9	-7.5	-17.4	662.6	635.4	258.7	61.5	1.000156
19500.0	490.1	-8.9	-17.3	653.2	633.7	258.6	62.9	1.000154
20000.0	480.5	-10.3	-16.8	643.9	632.0	258.4	64.4	1.000152
20500.0	477.0	-11.3	-19.1	633.9	630.7	258.4	65.9	1.000149
21000.0	467.6	-12.4	-21.6	624.1	629.4	258.6	65.7	1.000145
21500.0	458.3	-13.7	-23.1	614.8	627.8	258.9	65.6	1.000142
22000.0	449.2	-15.0	-24.5	605.7	626.2	259.1	65.4	1.000140
22500.0	440.3	-16.3	-26.0	596.8	624.6	259.7	64.4	1.000137
23000.0	431.5	-17.6	-26.8	587.9	623.0	260.0	62.9	1.000135

STATION ALTITUDE 3989.00 FEET MSL  
12 APR. 82 0930 HRS MST  
ASCENSION NV. 151

UPPER AIR DATA  
1026020151  
WHITE SANDS  
TABLE 22 CONT'D

GEODETTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	*INCL. DATA DIRECTION DEGREES (M)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	422.8	-19.0	-25.1	579.0	621.3	201.5	61.5	1.000134
24000.0	414.2	-20.4	-23.2	570.4	619.7	202.0	60.9	1.000133
24500.0	405.8	-21.2	-24.2	560.7	618.6	202.0	61.8	1.000130
25000.0	397.5	-21.9	-26.3	550.8	617.7	201.0	57.8	1.000127
25500.0	389.4	-22.5	-28.9	541.0	616.9	201.0	54.3	1.000124
26000.0	381.4	-23.4	-31.4	531.8	615.8	202.5	55.9	1.000121
26500.0	373.6	-24.5	-33.4	523.2	614.4	203.5	59.6	1.000119
27000.0	365.8	-25.7	-34.8	514.8	613.0	204.0	61.7	1.000117
27500.0	358.2	-26.8	-35.9	506.4	611.5	204.3	63.7	1.000115
28000.0	350.7	-28.0	-37.1	498.2	610.1	204.1	64.1	1.000113
28500.0	343.4	-29.2	-38.2	490.2	608.6	203.9	64.5	1.000111
29000.0	336.0	-30.5	-39.6	482.3	606.9	203.6	65.1	1.000109
29500.0	328.9	-31.8	-40.9	474.5	605.3	203.2	65.8	1.000107
30000.0	321.8	-33.1	-42.2	466.9	603.7			1.000105
30500.0	315.0	-34.4	-43.6	459.4	602.0			1.000103
31000.0	308.2	-35.7	-44.9	452.1	600.4			1.000101
31500.0	301.6	-37.0	-46.2	444.9	598.7			1.000100

STATION ALTITUDE 3989.00 FEET MSL  
12 APR. 82 0930H HRS MST  
ASCENSION NO. 151

MANDATORY LEVELS  
1020020151  
WHITE SANDS  
TABLE 23

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE AIR DEGREE'S CENTIGRADE	REL. HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5013.	22.6	24.	272.8	10.0
800.0	6727.	17.7	31.	270.8	17.8
750.0	8520.	12.5	39.	285.1	20.6
700.0	10400.	7.0	48.	297.4	30.6
650.0	12393.	2.8	56.	290.0	48.5
600.0	14522.	3.3	28.	259.0	49.0
550.0	16816.	-1.6	28.	258.2	54.9
500.0	19275.	-8.3	47.	258.6	62.3
450.0	21926.	-14.9	44.	259.1	65.4
400.0	24809.	-21.7	71.	262.0	59.8
350.0	28000.	-28.1	41.	264.1	64.1
300.0	31563.	-37.3	37.		

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